

Serial No. 09/964,537
Amendment dated March 13, 2006
Reply to Final Office Action dated December 13, 2005

Docket No. K-0261

REMARKS

Claims 1, 3-23 and 25 are pending. Claims 1, 4, 9, 13, and 17 have been amended to clarify various features of the invention. Applicants respectfully submit that the amendments presented in this paper raise no new issues requiring further searching and/or consideration by the Examiner, as these amendments add features to the independent claims that were recited in dependent claims that have been previously considered.

Reconsideration of the application is respectfully requested for the following reasons.

In the Final Office Action, claims 1, 3-5, 8-14, 17, 18, and 21-23 were rejected under 35 U.S.C. §103(a) in view of a Sharma-Chheda combination. This rejection is respectfully traversed for the following reasons.

Claim 1 recites a method for performing a handoff operation between different mobile networks. This operation involves three handoff procedures performed in succession.

The first handoff is performed from a first base station of a first communication network to a first sector of a gateway base station while maintaining a frequency of the first base station. A hard handoff is performed from the first sector of the gateway base station to a second sector of the gateway base station in a way that involves “*changing the frequency of the first base station to a frequency of a second base station.*” The second handoff is performed from the second sector of the gateway base station to the second base station “*while maintaining the frequency of the second base station.*” (Emphasis added). These features are not taught or suggested by the cited references.

The Sharma patent discloses performing three handoffs as a mobile unit moves through cells of different communication systems. (See column 11, lines 50-63 with reference to Figure 8). A soft handoff performed when the mobile unit moves from position (1) in first cell 802 to sector j in second cell 804. This handoff is performed while maintaining a frequency F2.

A hard handoff is performed when the mobile unit travels from sector j in cell 804 to sector k in this same cell, e.g., position (2) in Figure 8. When this occurs, the frequency is changed from frequency F1 in sector K to frequency F2 in sector k. This is different from the invention defined in claim 1. That is, claim 1 recites that its hard handoff involves “changing the frequency of the first base station to a frequency of a second base station.” To meet these features, the hard handoff performed in Sharma must change frequency of cell 802 (F2) to the frequency of cell 806, but the exact opposite is true. In performing its hard handoff, Sharma discloses changing the frequency from F1 to F2. (See column 11, lines 54-56). Thus, while Sharma discloses performing a hard handoff, that handoff is different from the one recited in claim 1.

A soft handoff performed when the mobile unit moves to position (3) in cell 806. This handoff is performed while maintaining frequency F2. (See column 11, lines 56-58). This is different from the invention defined in claim 1. That is, claim 1 recites that its second handoff is performed “while maintaining the frequency of the second base station.” To meet these features, the second soft handoff performed by Sharma must be performed while maintaining a frequency different from the frequency used in the initial cell 802. But Sharma discloses the exact opposite,

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i.e., Sharma's second soft handoff is performed while maintaining the same frequency used in the cell 802.

These differences between claim 1 and Sharma are summarized below, with the differences highlighted in bold text:

Claim 1

first handoff → inter-sector hard handoff → second handoff.

1st frequency maintained **1st frequency changed to 2nd frequency** **2nd frequency maintained**

Sharma

first handoff → inter-sector hard handoff → second handoff.

1st (F2) frequency maintained **2nd frequency (F1) changed to 1st frequency (F2)** **1st (F2) frequency maintained**

Applicants respectfully submit that these differences are sufficient to render claim 1 non-obvious and thus patentable over the Sharma patent.

The Chheda patent was cited for its disclosure of performing handoff operations based on threshold values used in pilot signal strength measurements. Chheda does not teach or suggest the features of claim 1 missing from the Sharma patent.

For the foregoing reasons, it is respectfully submitted that claim 1 and its dependent claims are allowable over a Sharma-Chheda combination. Applicants further submit that the features added by amendment to claim 1 were previously considered, for example, during the

examination of claims 4, 9, 11, and 21 and therefore raise no new issues requiring further searching or consideration by the Examiner.

Claim 4 separately recites that “the first sector of the gateway base station operates at the frequency of the first base station,” that “the second sector of the gateway base station operates at the frequency of the second base station,” and that “each of the first and second sectors of the gateway base station comprise an overlap area of the first and second base stations.” These features are not taught or suggested by the references of record, whether taken alone or in combination. For example, in addition to the frequency differences, each of sectors j and k shown in Figure 8 of Sharma overlap with only one of the first and second base station, not both as required by claim 4. Applicant respectfully submits that claim 4 is allowable based on these additional differences.

Claim 9 recites that performing the inter-sector hard handoff comprises “changing a frequency of the first sector equal to the frequency of the first base station to a frequency of the second sector equal to the frequency of the second base station after performing the first handoff.” From the discussion provided above, it is apparent that these features of the invention are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 11 recites “wherein cell ‘A’ and the α sector of cell ‘G’ use a first frequency and signal strengths overlapped with each other and cell ‘B’ and the β sector of cell ‘G’ use a second frequency and signal strengths overlapped with each other.” From the discussion provided above, it is apparent that these features are not taught or suggested by the cited references,

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whether taken alone or in combination. Furthermore, because claim 11 has not been amended in this paper, all of its features have been previously considered. Entry of this amendment is therefore proper.

Claim 13 recites that the inter-sector hard handoff comprises “switching from the α sector of cell ‘G’ to the β sector of cell ‘G’ and changing from the first frequency to the second frequency upon performing the inter-sector hard handoff.” For the reasons noted above, these features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 21 recites that “a first communication network performs first soft handoff of a call to the first sector of the gateway base station using the first frequency, the gateway base station performs an inter-frequency hard handoff of the call between the first and second sectors of the gateway base station from the first frequency to the second frequency, and wherein the gateway base station performs a second soft handoff of the call to the second communication network using the second frequency.” For the reasons noted above, these features are not taught or suggested by the cited references, whether taken alone or in combination. Moreover, because claim 21 has not been amended in this paper, all of its features have been previously considered. Entry of this amendment is therefore proper.

Claim 17 recites that “at least one cell of the first communication system and at least one cell of the second communication system overlap one another in said overlap region at an area where the first and second sectors overlap.” These features are not taught or suggested by the

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cited references, whether taken alone or in combination. As discussed above with respect to claim 4, each of sectors j and k shown in Figure 8 of Sharma overlap with only one of the first and second base station, not both as required by claim 4. Applicants respectfully submit that claim 17 is allowable based on these differences.

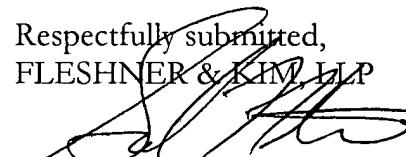
Claims 6, 7, 15, 16, 19, and 20 were rejected under 35 USC § 103(a) for being obvious in view of a Sharma-Chheda-Jalloul combination. This rejection is traversed on grounds that the Jalloul patent does not teach or suggest the features of base claims 1, 11, and 17 missing from the Sharma and Chheda patents.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of the application is respectfully requested.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Date: **MARCH 13, 2006**